

Ebola, COVID-19 and Africa: What we expected and what we got

Shibu Sasidharan  | Harpreet Singh Dhillon

Correspondence

Shibu Sasidharan, MD, DNB, Head of Department, Anaesthesia and Critical Care, MONUSCO Level III Indian Field Hospital, Goma, Democratic Republic of the Congo. Email: shibusasi@gmail.com

Abstract

Democratic Republic of the Congo's fight with Ebola was just settling when WHO declared COVID-19 to be a global pandemic on March 12, 2020. This has caused concomitant setbacks in the treatment and control of major health issues like HIV, tuberculosis, measles, and malaria in the country. This, coupled with civil unrest and risk to the safety of the health workers, is a 'perfect storm' waiting to unfold. Military contingents as peacekeepers are having the most difficult time, handling the situation, in the wake of risks involved.

KEYWORDS

Ebola, measles, malaria, human rights, military medicine, COVID-19

1 | BACKGROUND

Democratic Republic of the Congo's fight with Ebola was just settling when it sustained another big blow in the form of COVID-19 pandemic. This has made it impossible to control other major health issues like HIV, tuberculosis, measles, and malaria in the country. All this in the background of existing violent armed clashes and inter-communal conflict, and risk to the life of health care workers, it is the 'perfect recipe' for disaster. The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (DRC) or MONUSCO, is a United Nations peacekeeping force in the Democratic Republic of the Congo. Under the aegis of MONUSCO, the Level III Indian Field Hospital in Goma is a modern state of the art facility that is maintained by the Indian military contingent deputed to the Democratic Republic of the Congo. It is also the regional centre in Africa for all cases of COVID-19, and in the forefront of the race in the containment of the contagion.

2 | DISCUSSION

The Ebola Virus Disease (EVD) raged through Africa between 2014–2016, and went on to be the biggest International Public Health Concern of International Concern (PHEIC) of the decade. The virus

was first discovered in 1976 in an 18-month-old boy from a village in Guinea, who was believed to have been infected by bats as the index case in December 2013. It spread quickly enveloping the neighbouring countries and wreaking havoc owing to fragile surveillance systems and weak public health infrastructure. The WHO lifted the PHEIC status on Africa's Ebola situation on March 29, 2016, but the impact this epidemic had on the world, and principally West Africa, was momentous. A total of 28,616 cases of EVD and 11,310 deaths were reported, and the maximum cases were in DRC, Guinea, Liberia, and Sierra Leone. There were an extra 36 cases and 15 deaths that occurred outside of these three countries. Sierra Leone's first case of EVD surfaced in January 2016 but was declared Ebola-free on March 17, 2016. In Guinea, the first outbreak ended in December 2015, with additional cases seen in March and April 2016. Guinea was finally declared Ebola-free in June 2016.

The latest outbreak of EVD was declared by WHO on June 1, 2020 in the Equateur Province which started with a cluster of cases in Mbandaka and has gradually spread to 11 of the province's 17 health zones. This is DRC's eleventh outbreak which has claimed 43 lives till now and the cases are spread over approx. 300 sq. km, mainly comprising densely forested remote and inaccessible areas. With around 100 Ebola cases in less than 100 days and COVID-19 already draining resources and attention, WHO has expressed profound concern in containing this particular outbreak compared to

previous ones.¹ In view of the same, WHO has scaled up screening procedures, advocated ring vaccination of the high risk groups and has urged for additional funding and logistic support.

Healthcare workers (HCWs) caring for EVD patients are at the highest risk for contracting the disease. During the last epidemic, Liberia lost 8% of its doctors, nurses, and midwives in its battle to EVD.² Compounding the overwhelming effects EVD had on the HCWs in DRC, Guinea, Liberia, and Sierra Leone, there were concomitant setbacks in the treatment and control of major health issues like HIV, tuberculosis, measles, and malaria in these countries.³

Measles is another health problem in the DRC. Since 2019, 369,520 cases and 6779 deaths have been reported.⁴ This has been named as the world's worst measles epidemic outbreak by the WHO. The DRC had established the Expanded Program on Immunization (EPI) in 1978 and the medical humanitarian organization Médecins Sans Frontières (MSF), operating in DRC since 1981, has been a vital companion of the Ministry of Health (MoH) in responding to measles epidemics in the past decade. But the ongoing Congo EVD outbreak and civil unrest has had a negative and disastrous impact on routine child immunization in the DRC.

DRC's fight with EVD and measles was just settling when WHO declared COVID-19 to be a PHEIC on March 12, 2020. DRC announced its first COVID-19 case on March 10, 2020, almost one month after Algeria had reported the first COVID-19 case in Africa from Egypt on February 14, 2020 and Nigeria reported the first case in Sub-Saharan Africa as an Italian citizen who worked in Nigeria and flew into the commercial city of Lagos from Milan on February 25, 2020. The evolution of the COVID-19 outbreak in DRC is not yet clear. The first case was a Congolese man who had travelled from France and transited through Kinshasa. The Ministry of Health and Social Affairs communiqué⁵ reported 3763 cases (81 deaths, 512 recoveries, 7 cases transferred outside the country, 143 fresh cases in a day) and 2016 persons under observation as of June 6, 2020 with a transmission classification status as per WHO being Community Transmission.⁶ COVID-19 continues to spread faster there than in the neighbouring countries like Senegal, which, together with Mali and Nigeria, were the 4 countries which successfully tackled the 2014 Ebola outbreak in Africa. Government authorities in DRC have placed various measures like systematic body temperature screening with screening at almost every gate and public gathering and suspension of all flights and banning all air traffic since March 19, 2020. Borders were closed and a state of emergency was declared on March 24, 2020. But despite these measures,

the virus's continued progression throughout the country suggests that these measures were inadequate.⁷ Measures to ban mass gatherings and curfews, were some proactive steps taken to complement DRC's response. WHO has provided testing kits to the National Institute for Biomedical Research (INRB), Kinshasa and thirty-nine laboratories in the WHO African region now test for COVID-19. WHO has dispatched essential supplies for screening and handling suspect cases at airports and other points of entry.

North Kivu is the epicentre of the Kivu Conflict where armed conflict between the military of the DRC (FARDC) and the Hutu power group has resulted in violent armed clashes and inter-communal conflict.⁸ With a 21,000 member force, MONUSCO constitutes the largest peacekeeping force currently in operation. This area has about one million uprooted people and shares its borders with Uganda and Rwanda, with cross border movement for trade. The humanitarian crisis and deterioration of the security situation is expected to affect any response to the outbreak.⁹

WHO described this combination of violence and disease outbreaks as a 'perfect storm', in their statement – "A perfect storm of active conflict, limiting our ability to access civilians, distress by segments of the community, already traumatized by decades of conflict and of murder."¹⁰ That in addition to misinformation by the political parties and the attack on UN health workers makes humanitarian and medical help difficult to deliver.

Compounding this threat is the added lack of security to HCWs in the background of political unrest. It indeed is the 'perfect storm'. The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (DRC) or MONUSCO, is a United Nations peacekeeping force in the Democratic Republic of the Congo. The MONUSCO Level III Indian Field Hospital in Goma is a modern state of the art facility that is maintained by the Indian contingent, and treats MONUSCO/UN staff and casualties, assists medical NGOs and treats the local population. Presently, the facility is also geared up as a regional COVID-19 referral centre for all the staff and dependents of MONUSCO to cater to the requirements of the Force during this pandemic.

3 | IMPLICATIONS

Before suggesting any health related recommendations for low income countries of Africa, it is important to fully appreciate the

¹Ebola outbreak in western Democratic Republic of the Congo reaches 100 cases - Democratic Republic of the Congo | ReliefWeb [Internet]. [cited 2020 Aug 25]

²Evans DK, Goldstein M, Popova A. Health-care worker mortality and the legacy of the Ebola epidemic. *Lancet Glob Health*. 2015 Aug 1;3(8):e439–40.

³Parpia AS, Ndeffo-Mbah ML, Wenzel NS, Galvani AP. Effects of Response to 2014–2015 Ebola Outbreak on Deaths from Malaria, HIV/AIDS, and Tuberculosis, West Africa. *Emerg Infect Dis*. 2016;22(3):433–441. <https://doi.org/10.3201/eid2203.150977>.

⁴<http://outbreaknewstoday.com/measles-in-drc-one-of-many-outbreaks-ravaging-the-country-95420/June 4, 2000>

⁵Parpia, Ndeffo-Mbah, Wenzel & Galvani, op cit., note 3.

⁶Ibid.

⁷Ebola | History of Ebola in Democratic Republic of the Congo [Internet]. WHO. World Health Organization; [cited 2020 Jun 6]. Available from: <http://www.who.int/ebola/historical-outbreaks-drc/en/>.

⁸"Congo Ebola outbreak compounds already dire humanitarian crisis - Democratic Republic of the Congo" Available from: <https://reliefweb.int/report/democratic-republic-congo/congo-ebola-outbreak-compounds-already-dire-humanitarian-crisis>.

⁹"Conflict in new Ebola zone of DR Congo exacerbates complexity of response: WHO emergency response chief. UN News. 2018 [cited 2020 Jun 6]. Available from: <https://news.un.org/en/story/2018/08/1016262>

¹⁰Ebola-hit DRC faces 'perfect storm' as uptick in violence halts WHO operation. UN News. 2018 [cited 2020 Jun 6]. Available from: <https://news.un.org/en/story/2018/09/1020392>

concomitant complexities and challenges of each, wherein might lie the key to improvement measures. We will talk about DRC as the model country, since by virtue of being located here, we have the most creditable on ground understanding.

3.1 | Poverty

While its poverty rate has fallen to some extent over the past 20 years, particularly in the rural areas, the DRC nevertheless remains one of the poorest countries in the world.¹¹ DRC is one of the countries with the highest maternal and child mortality ratios in the world. Here, women have an average of 6.6 children; and 42 percent of women in the age group 15-19 years are mothers or pregnant with their first child. For every 1,000 children born, 58 die before the age of 1, and 104 die within the first five years of life. Chronic malnutrition affects 43 percent of children under five.

3.2 | Education

The DRC ranks 135/157 in terms of human capital. With a human capital index score of 0.37%, which is below the average in Sub-Saharan Africa (0.40). This translates into the fact that a child born today will be 37% less productive in adulthood than a child who received a complete education and proper health care in other parts of the world. Congolese children on an average spend only 9.2 years in school and more than 43% of children are malnourished.¹² There are eight medical schools in DRC.

3.3 | High demand for healthcare

Long before COVID-19, infectious diseases have swept throughout this country. Hepatitis A, Ebola, measles, malaria, lower respiratory infections, tuberculosis, diarrheal diseases, and HIV/AIDS are some of the major causes of death. Neonatal disorders, ischemic heart disease, stroke, congenital defects and road injuries being the remaining major contributors. Mental health and the consequences of violence are major public health challenges. With significant cases under each category, along with malnutrition and other diseases, the demand for healthcare is immense.

3.4 | Insufficient resources

Health financing in the DRC is almost totally dependent on external aid which is essentially based on humanitarian assistance. COVID-19 has frozen many external supply of funds, due to allocation of

those funds into their own health systems. With no public funding and fragmented national leadership, regulation of the health sector is essentially broken. Developing a strategy for medical education with such scarcity of funds is unthinkable.

3.5 | Dysfunctional Healthcare System

The lack of a strategy for developing organised human resources for healthcare, combined with stopping recruitment in the public health service for more than 20 years, has led to dwindling of HCW densities in the DRC. With 0.28 physicians, and 1.91 nurses and midwives per 10,000 population, DRC has one of the least number of skilled healthcare professionals and medical educators in the world. The existing health sector workforce is also aging and the quality of work has compromised considerably.

Above all these, chronic political instability, social unrest and armed conflict have made it difficult for DRC to increase domestic spending on healthcare and education. But COVID-19 has spelled uncertain, uncharted territories, and we are all grappling to find alternatives for a new norm.

4 | RECOMMENDATIONS

4.1 | Utilizing existing infrastructure

The existing WHO collaborating centres¹³ (eg. The Institut National de Recherche Biomédicale (INRB) in Kinshasa which was primarily tasked for research on human African trypanosomiasis) can be transformed to provide medical education. This will yield a dual advantage - continuing medical education and augmentation of health care workers at the same time.

4.2 | Harnessing funds and logistic supports

The active assistance and participation of WHO can help harness the potential of international organisations such as TUFH, which can provide necessary financial and human resources required to continue medical education and enhance community health services.¹⁴

¹¹Parpia, Ndeffo-Mbah, Wenzel & Galvani, op cit., note 3.

¹²Ibid.

¹³Collaborating centres [Internet]. [cited 2020 Jul 16]. Available from: <https://www.who.int/about/partnerships/collaborating-centres>.

¹⁴Kaufman A. The network: Towards unity for health, building a "Star Alliance" among kindred organizations [Internet]. Vol. 18, Education for Health: Change in Learning and Practice. Educ Health (Abingdon); 2005 [cited 2020 Jul 16]. p. 325-8. Available from: <https://pubmed.ncbi.nlm.nih.gov/16236580/>.

5 | CONCLUSION

On analysis of the spatial events leading to rapid spread and increased severity of EVD in West Africa, with consequent high fatality rates, and extrapolating it with the pattern of the current pandemic of COVID-19, it translates into one of the biggest threat facing any treating doctor in the world. There is a need to intellectualise understanding of outbreaks with valuable recommendations crucial to preventing or curtailing any future outbreak of the disease. For this, a meticulous data collection, compilation of line-lists and analysis of outbreak investigations are recommended to define the epidemiology of the epidemic, to guide quick and operative reactive campaigns. Population-based coverage surveys should be implemented to determine the susceptibility profile and to recognize spaces of low coverage to better prioritize and resourcefully use capitals in order to target the most vulnerable groups. There is also a desideratum to garner international attention and take steps to increase public awareness.

ORCID

Shibu Sasidharan  <https://orcid.org/0000-0003-2991-7595>

AUTHOR BIOGRAPHIES

Shibu Sasidharan, MD, DNB, is Head of Department, Department of Anaesthesia and Critical Care & Trauma, Level III IFH Hospital, Goma, DRC. He is an Assistant Professor and Lieutenant Colonel in the Indian Armed Forces Medical Services serving with the United Nations peacekeeping force MONUSCO in the Democratic Republic of the Congo.

Harpreet Singh Dhillon, MD, is a Psychiatrist and Reader at the Department of Psychiatry, Level III IFH Hospital, Goma, DRC. He is a Major in the Indian Armed Forces Medical Services serving with the United Nations peacekeeping force MONUSCO in the Democratic Republic of the Congo.

How to cite this article: Sasidharan S, Dhillon HS. Ebola, COVID-19 and Africa: What we expected and what we got. *Developing World Bioeth.* 2021;21:51–54. <https://doi.org/10.1111/dewb.12292>